## **Abstract**

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The invention relates to remote control of an unmanned aerial vehicle, UAV, (100) from a control station (110) by means of a wireless command link (115). The UAV (100) may be controlled in an autonomous mode wherein it flies according to a primary route (R1, R1') defined by a first set of predefined waypoints (WP1-WP8, IP). The UAV (100) may also be controlled in a manual mode wherein it flies according to an alternative primary route (R1') defined in real-time by control commands received via the wireless command link (115). Flight control parameters are monitored in both modes, and in case a major alarm condition occurs, the UAV (100) is controlled to follow an emergency route (R2') defined by a second set of predefined waypoints (HP1-HP7, TP1-TP9, IP). Particularly, a major alarm condition is activated if an engine failure is detected. Then, the emergency route (R2') involves flying the UAV (100) to an air space above a termination waypoint (TP9) on the ground at which it is estimated that the vehicle's (100) flight may be ended without injuring any personnel or causing uncontrolled material damages.

(Fig. 1)